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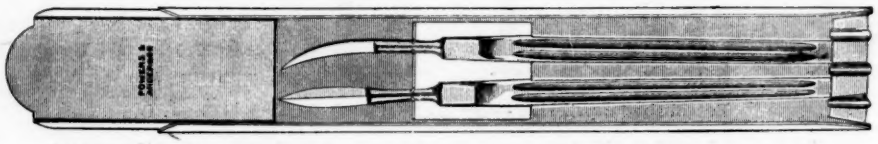

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## Original Communications.

### EXPERIENCES AT AN EVACUATION HOSPITAL IN FRANCE.

By STUART McGUIRE, M. D., Richmond, Va.

When Base Hospital No. 45 arrived at Autun, orders were found directing Baughman and me to leave the organization and proceed at once to the Chateau Thierry front and report for duty at Evacuation Hospital No. 7. We took the first train and reached Coulommiers the following afternoon. There were no vehicles at the station and we were told that the hospital was two or three kilometers distant. The proper thing for us to have done was to phone and request that an ambulance be sent for us, but we were too new at the game to know this military custom. While we stood in the rain hesitating what to do a car driven by a French soldier came up the road and we hailed him. As soon as we made him understand where we wanted to go he made us understand he would be glad to take us. It is a question whether or not any speed laws existed at that time and place but if one did we certainly broke it. We shot through the village, rushed up a long steep hill, turned into a gateway and halted abruptly in front of an old chateau that had been converted into a military hospital. The exterior of the building reminded us of George Cole Scott's residence near Richmond. In front were terraces leading down to what was once a beautiful garden. In the rear was a magnificient body of woods through which ran an avenue, the branches of the trees meeting over it to form a vaulted arch. The flower beds were trampled, the roads were cut deep with ruts and the grounds everywhere were ankle deep in mud. Many tents had been erected in the open spaces around the house and in the woods on both sides of the avenue. A stream of ambulances was coming and going, and wet and mud splashed stretcher bearers were plodding to and fro carrying litters on which lay silent figures.

We climbed the slippery steps and entered a muddy hall-way. On the right was the Adjutant's Office. We presented our credentials and asked for news from the battle field which from the sounds of the guns was evidently not far distant. While we talked, in walked Don Peters, or as he must now be designated Major Peters, owing to the dignity of his position as the Chief Surgeon of the Hospital.

He gave us a warm, if rather profane, welcome and carefully inquired where we had spent the previous night and if we had slept well. The reason of his solicitude was apparent when, after looking at his watch and consulting a schedule, he directed us to report at six o'clock in the operating tent for the night shift.

An orderly took our hand baggage and lead the way to a large tent in which we were to have our quarters. There was no flooring and the ground was wet and sodden. One end was occupied by a counter on which were some cigarettes and chewing tobacco, and behind which was seated a very bored and indifferent representative of the Y. M. C. A., who smoked a pipe and bemoaned his luck at having such an assignment.

The other end of the tent was filled with cots, most of which contained a sleeper. There were many flies and the air was damp and foul. We did not tarry long but went out to investigate our new surroundings.

Under a shed just outside the rear entrance of the chateau was a steam engine which was puffing away at its task of driving a dynamo that evidently furnished current for the X-ray plant and electric lights for the grounds and buildings. On the first floor of the chateau were located the various executive offices, an operating room and the X-ray department. Upstairs were the laboratory and sleeping

quarters for the regular officers of the organization. In the basement was the kitchen, and near it was the mess hall under a fly tent pitched in the yard. Here food was procurable at almost any hour. And here we first saw the American Nurse in her new environment and in her new uniform. We had last seen her at Camp Lee dressed in white, with an attractive cap and dainty shoes and hose. It was hard to recognize her as she sat on a bench and ate from a plank table, her head covered with an oil skin hat, her feet encased in rubber boots and her body clothed in a scant, ill-fitting dress of gray material that was unstarched and clung from dampness to her figure. Surely those in America who were responsible for her costume designed to send her handicapped to the front. In the days that were to follow, however, we found that these nurses were worthy members of the Sisterhood, for they worked faithfully and efficiently, endured fatigue and hardships cheerfully, and when opportunity offered for social relaxation proved pleasant and agreeable companions.

At six o'clock we reported at the operating tent. It was about twenty feet wide, forty feet long, had a wooden floor and was lighted by electricity. There were ten surgical tables placed side by side in a row down the center. At the foot of the tables was a board shelf extending the length of the tent for instruments and surgical dressings. On the opposite side were small tables for the surgeons to wash and disinfect their hands. Each table contained three basins, the center one for bichloride solution and the two on the end for soap and water. On either side of the tables were large galvanized iron (G. I.) cans, one for clean and the other for waste water. There were no operating gowns, caps or masks. The surgeon removed his blouse, put on a rubber apron and rolled up his sleeves. With a canteen cup he filled a basin with clean water from the can to the right and after scrubbing his hands he emptied the waste water into the can to the left. He then soaked in the bichloride solution and put on rubber gloves. These were not changed between different operations unless torn, but simply washed and rinsed in antiseptic solution while still on the hands.

A surgical team consisted of a surgeon, an assistant, an anesthetist, two nurses and two orderlies. Each team had charge of two surgical tables.

When Baughman and I entered the tent the day shift was just leaving and the night shift coming on duty. We were assigned to tables Nos. 3 and 4. Two bright faced nurses were arranging instruments, ligatures and dressings on the shelf which was covered with a freshly sterilized sheet. While we were preparing for our night's work, we were told that our nurses had just been released after two weeks' confinement in their tent as punishment for the infraction of some regulation, and taking advantage of this information to open conversation we were soon on quite an intimate footing. Before morning, however, the sights we saw and the work we did sobered us too much for joking. There were several hundred wounded waiting to be operated on and the number was hourly increasing by the arrival of ambulances from the front. Most of the pre-operative patients were in the receiving tents, but some lay in the woods unprotected from the rain except by the blankets that covered them. A detail of stretcher bearers formed a constantly moving line, carrying men first to the X-ray department to be skiagraphed, then to the surgical tent to be operated on, and then to the ward tents to be treated until opportunity offered to evacuate them to some hospital in the rear.

There was no time or were there facilities to undress and bathe patients before bringing them into the surgical tent and they were usually placed on the table fully dressed and still covered with mud and dirt from the battle field. While the surgeon, assistant and nurses were operating on a patient at one table, the orderlies were preparing another patient at the second table. They exposed the wounded area by removing or cutting away the clothing and then shaved the skin and painted it with iodine. Before the surgeon finished the operation he was doing, the anesthetist switched to the other table and by the time the surgeon was free the second case was prepared and under ether. Just before the surgeon finished an operation he would shout "Scribe" and a sergeant would come with a tablet to record the patient's name, number, rank and organization and to take down the details of the operation which had been performed as dictated by the surgeon. Everything was

done without confusion and without waste of time.

The attitude of the wounded men to their condition and to the surgical ordeal ahead of them was interesting. They were all so tired and exhausted that nothing really mattered. In fact an injury was a piece of good luck if it brought relief from exertion and exposure. They were thankful they had not been killed and grateful at the prospect of food and warmth and rest. They asked no questions as to the necessity, character or danger of the operation ahead of them, neither did they complain of the long time they often had to wait before their turn came. This was partly due to the military discipline to which they had been subjected and partly to a confidence that everything possible under the circumstances was being done for them. Most of them fell asleep while lying on the table waiting for the surgeon. A few smoked cigarettes and looked around them with an incurious gaze. They rarely volunteered a remark but would usually answer questions briefly, intelligently and respectfully. When asked about the Germans they were very bitter in the denouncement of their use of hand grenades and machine guns after they had surrendered, and did not hesitate to say that they killed German prisoners whenever they had the opportunity. One boy said he had gotten three, and when he was asked how he knew he had killed three he turned his head and smiled wearily and said "Because I stuck them."

Most of the wounded men had souvenirs tied up in handkerchiefs and one had a pair of field glasses strapped to his wrist which he was very much afraid would be stolen from him during the operation. He explained he would like to keep them because he had to kill an officer to get them.

There was the frequently expressed conviction of the superiority of the American Doughboy and perfect confidence in the ultimate outcome of the war. The men tried to suppress all evidence of suffering, minimized the extent of their injuries and did not ask when they would be able to return home but when it was probable they would be sent back to their command. Behind this brave front, however, there were occasionally incidents which showed that some of the men realized the result of multilating injuries. One young boy who had his right hand blown off laughed and joked with the orderlies while he watched them prepare his arm for amputation, but when he was etherized and no longer able to control the expressions of his feelings he prayed to die because he could no longer work and would be a burden and not a support to his poor mother.

The night wore on. We stopped for a few moments and went to the kitchen for something to eat. It was a tired pale faced crew who saw the dawn.

When we were relieved by the day shift we all went to breakfast. As we came out of the mess tent we found an evacuation of patients in progress and stopped to watch it. Wounded men able to stand transportation were being brought out on litters and loaded into ambulances to be hauled to the railway station over a mile distant where a hospital train was waiting to take them to the rear. Certain classes of cases such as head and abdominal injuries were held, but most of the other patients were sent out within a few hours after being operated on. It was still raining and the mud was fearful. Litter bearers slipped and sometimes fell, ambulances skidded and stalled and occasionally traffic was blocked and it seemed that hopeless jam was inevitable. But the men and drivers were experienced and skillful and at the last moment everything would right itself.

As we walked back to our quarters to get some sleep I heard Baughman give an exclamation of surprise. I looked at him and found his eyes glued on what we afterwards learned was technically known as a salvage dump. It was a mass of clothing and equipment removed from wounded soldiers that made a heap as large as a hay-rick. There were shoes and underwear, trousers and blouses, overcoats and helmets, canteens and mess kits, rifles and side-arms, all in one sodden pile in the rain. We passed on the other side of the road to avoid the possibility of cooties and both of us knew that each of us was thinking of the lectures we had heard in the States on the subjects of property, responsibility and accountability.

One day succeeded another and still the ambulances arrived from the front with their load of wounded and others left for the railroad station with those who had been operated

on and were able to be moved to the rear. Sometimes we worked in twelve hour shifts and sometimes longer depending on the urgency of the conditions and the strength and stamina of the teams. And it rained incessantly. To make matters worse dysentery developed among the staff. This was at first thought to be due either to the food or the water but was finally concluded to be caused by pollution from flies. We continued at work however, encouraged by the news that fresh teams were on their way to relieve us.

This is not the place to try to give a technical description of war surgery. Roughly speaking the operations performed had for their objects the exposure of the tract of the missile, the removal of foreign bodies if present, and the excision of bruised and devitalized tissue. In doing this work there was little of the satisfaction a civil surgeon feels in a well executed operation. There was no special skill required and the mutilation necessarily inflicted on the patient was enough to daunt the courage of the boldest, and to make those inexperienced in this special class of cases, question the justification of the methods adopted. It was scientific butchery conducted under the rules and regulations which had been adopted for the guidance of the military surgeons by the Medical Department of the Army. There was none of the elation that comes from the demonstration of a correct diagnosis because the patient had not been studied before the operation and there was no after-feeling of triumph at the final result secured because the patient immediately passed from under observation and there was no means of knowing whether he lived or died. The single exception to the above was in noting the unfailing accuracy with which the X-ray located the size, shape, number and position of foreign bodies.

One afternoon while I was sleeping on a cot without having removed any clothes an orderly waked me and said that Col. Keller wanted to see me. I found a smiling affable, well groomed man who did not look as if he had a care in the world, although I afterwards learned he was in charge of all surgical teams in France. He evidently was not as much pleased with my appearance as I was with his for he told me that I looked ill, and that Baughman and I were to go to Paris and spend three days before we rejoined our organization. We reached that city on Saturday, which was fortunate as it was one of the two days in the week that the hotels were permitted to furnish hot water to their guests. We secured two rooms with a communicating bath. I went to bed and slept practically three days. Every time I waked I heard Baughman splashing in the tub. I don't know what else he did, but he certainly washed enough for the two of us.

## UNIOVULAR TWIN WITH CONGENITAL ABSENCE OF THE RIGHT FEMUR.*

By VIRGINIUS HARRISON, M. D., Richmond, Va.

Mrs. G. W. S., age 26 years, white, primipara with past and present history negative, last menses June 28, 1918, was due to be confined April 4, 1919. She fell into labor and entered Memorial Hospital February 28, and was delivered of a male child weighing three pounds and thirteen ounces at 8:40 P. M.; at 9:10 P. M., another male child was delivered, weighing three pounds and six and a half ounces. At 9:25 P. M., the placenta was expressed to control a very free hemmorrhage. Pituitrin and ergotole were freely used.

In examining the membranes I could find but one chorion and one amnion, in other words these children were in one sac. Being of the same sex "nature did not have to protect their morals." The placenta was carefully examined for any groove that would show fusion of two placentae, but none was found. The two umbilical cords came off about an inch apart, and there was anastomosis of the blood vessels. The children looked very much alike, were of the same sex and smaller than usual.

All these conditions point to the fact that they developed from one egg, called homologous or monochorionic twins, which is not of frequent occurrence. This means, I believe, that they are not frequently recognized. DeLee (Text-*Obstetrics*) says, "twins from one ovum are smaller than those from two, and the difference in weight is not so great; they also have a higher mortality and are often deformed" *** "Uniovular twins are rare."

Williams (Text-*Obstetrics*) says, "In rare instances a single amnion is found. This condition was noted in forty-four cases collected

*Read before the Richmond Academy of Medicine and Surgery, April 22, 1919.

from literature by Holzapfel, is not primary, but results from perforation of the partition wall between the two original amniotic cavities."

In uniovular twins we may have one heart stronger than the other; the stronger heart appropriates more blood from the placenta, and thereby grows stronger at the expense of the weaker, which grows still weaker and atrophies, causing a condition called acardia. In uniovular twins it is absolutely essential that

the cord be tied at the birth of the first child, to save the second from bleeding to death.

Both children seemed to be in good condition, but baby No. 2 was found to have a short right thigh, so short in fact that the right knee appeared to articulate with the ilium. The right leg was freely movable at the knee joint. The left leg and thigh appeared normal. There were no other deformities noted.

I exhibit to you a picture of the result of the X-ray examination, and you will note that the femur on the right side is not present, and that the fibula is a very small affair as compared with the left side. Baby No. 1 seemed to be in perfect developmental condition. Both were improving in weight when they left for another city when a month old. I have not heard from them and think I would have done so had they not continued to improve.

The causes of such deformities do not seem to be known, and if the child lives to maturity the application of an artificial limb will be his only help.

401 *North Allen Avenue.*

## INFECTIONS OF THE NOSE AND THROAT AS PRIMARY FOCI FOR SECONDARY INFECTIONS.*

By KARL S. BLACKWELL, A. M., M. D., Richmond, Va.

In taking up this subject of focal infections, we must naturally consider the following: the faucial, pharyngeal and lingual tonsils, and the maxillary, frontal, ethmoidal and sphenoidal sinuses. If time permitted, I should like to take up each one of these fully and show as far as possible what has been found out in regard to the part they play in producing infections; but as this is not possible I have decided to confine my remarks entirely to one source, which as a type is conceded the most frequent focus from which systemic infections arise,—that is the faucial tonsils.

This subject is far from being a new one, for as far back as 1789 Everlen of Christiana considered the relation of tonsillitis to rheumatism as clinically evident. During the century following, nothing can be found in regard to this subject, and although ever since 1900 much clinical evidence has been brought forward by hundreds of observers, still it has been only within the past five or six years that a sufficient amount of definite scientific proof has been collected to establish the fact beyond any doubt that certain systemic infections arise through the entrance into the blood or lymph streams of organisms, which have come from the tonsillar crypts, either with or without primary lesions in the tonsils themselves.

Some of the infections which are attributed to the tonsils as primary foci are the following: acute or chronic arthritis, endocarditis, pericarditis, chorea, nephritis, neuritis, osteomyelitis, appendicitis, peritonitis, pulmonary gangrene, infectious jaundice, cervical adenitis, and chronic toxemia without localized lesions other than those in the tonsils themselves. The clinical evidence in most of these is sufficient to justify the belief that these dis-

*Read before the Richmond Academy of Medicine and Surgery, at a joint meeting held with the Dental Academy.

eases are of an infectious character, secondary to a primary focus, and that this focus may lie within the tonsils. And though in some of these diseases a bacteriological evidence is not absolutely conclusive, still we may say that in addition to the clinical evidence, one of the most convincing proofs is often derived from the postoperative results of a complete enucleation of the tonsils.

The tonsils, from their position, are constantly exposed to infection from the air, food and secretions from the mouth and the accessory sinuses: and also from their location they can easily pour out into the various parts of the body these poisons by means of the repiratory, alimentary, circulatory and lymphatic systems. Let us consider for a minute the structure of the tonsil so that we can better understand why this organ, which has been supposed by many to act as a barrier against bacterial invasion, especially in the earlier years, should now be considered a perfect cesspool for germs, which seemingly can pass through it without any trouble and go where they choose into the various parts of the body.

The tonsils situated between the faucial pillars consist of lymphoid tissue surrounding about fifteen or twenty deep and often tortuous depressions, called crypts, the inner or exposed surface of the tonsil being covered with mucous membrane, while the outer or hidden surface is covered by a fibrous capsule. Clinically, the crypts seem to be the source of the greatest amount of trouble as they often become filled with food, tissue debris and bacteria: and furthermore, they lend themselves well to the retention and keeping active the various germs which may become entrenched within them.

Practically all of the crypts have pockets in them and in many cases the blind ends of the crypts are in close relation with the capsule. The crypts which open into the supratonsillar fossa at the top of the tonsil are not only at the disadvantage of having to drain up-hill, but the superior wall of this fossa often closes down quite tightly on the opening of the crypts thus preventing ventilation or drainage. Practically the same condition exists with those which empty anteriorly under the fold called the plicatonsillaris. The general law of physiological-pathology is here again illustrated, that any mechanical obstruction to the drainage of any secreting cavity tends to result in a local morbid process and in toxic or infectious manifestations in remote parts of the body. The epithelium of the crypts is very thin and offers very little mechanical resistance to the entrance of bacteria into the parenchyma of the tonsil, and in fact the conditions are at times ideal for the invasion of bacteria or the absorption of the toxic products of their growth. As long as the epithelium of the crypt remains in a normal state of health an equilibrium between immunity and infection is maintained; but when these crypts become mechanically closed by the afore-mentioned folds or concretions a warfare between the germs and the epithelium occurs, the germs throwing out a toxin for the purpose of impairing the tonicity of the epithelium, while the epithelium throws out a poisonous bacteriolytic ferment for protection against the germs. If the battle is a long one the epithelium may give away and the infectious host then penetrates the epithelial barrier and enters the deep tissues of the tonsil, and from there into the system by means of the blood or the lymphatics. The lymphatics of the tonsils, which are different from lymphatics of other glands in that they have their origin in the tonsil, and do not pass through them, drain into the so-called tonsillar gland of the deep cervical chain situated under the sterno-cleido-mastoid muscle: and then they go to the thoracic glands and finally to the thoracic duct. Much valuable information can often be gained from a study of these deep cervical glands as to the focus from which the infection arose.

The more we study these cases the more we realize how difficult it is at times to speak with absolute certainty as to whether or not the tonsil is the cause of the systemic infection. Of course there are many tonsils which require only the most superficial examination to make you feel that they should be enucleated, especially if you can get a clear history of repeated attacks of tonsillitis, quinsy or other throat trouble. Perhaps the most condemned tonsil in the past has been the hypertrophied one, and in fact for years this was considered the only one which we ever suspected of doing any harm. We now know that there is no very sharp line of demarkation between a normal

and hypertrophied tonsil, hypertrophy *per se* being rather a physiological than pathological process. We generally get our idea of the size of a tonsil from the relation it bears to the plane of the pillars. Unless the tonsil is sufficiently large as to produce symptoms of pressure on neighboring structures, obstruction to breathing, thickening of speech, or ear symptoms, we should not condemn a tonsil simply because it is hypertrophied.

The tonsil of all others which gives us the most trouble is the buried one, and at times all we can see is a small piece of tonnsillar tissue just large enough to contain one or two crypts, which contain some toxic material, but perhaps locally are giving no apparent trouble. Deep cryptic retention or chronic abscess formation may exist for years near the capsule and in these cases we often can condemn the tonsil only by the process of exclusion. It is in this last class of cases that the closest cooperation is needed, for it is only by this means that we will be able to ferret out the cause of the trouble. The teeth, gums, the accessory sinuses, the ears, the gastro-intestinal tract, the genito-urinary tract have all to be looked into and excluded.

A meeting such as the one to-night is of great value to us all, as it will help to give us a better understanding of the work that is being done by one in another field. Being ignorant except in a very general way of just what information the other person can throw on the subject we are so apt to lay too much stress on the particular field over which we are supposed to reign supreme, and not to weigh sufficiently the evidence brought from some other source.

501 *E. Franklin Street.*

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## SYPHILIS AT THE U. S. ARMY BASE HOSPITAL, CAMP GREENE, CHARLOTTE, N. C.

By CLYDE F. ROSS, M. D., Richmond, Va.
Instructor in Genito-Urinary Surgery, Medical College of Virginia,
and
WALTER A. DeFOE, M. D., Detroit, Mich.,
(Formerly Captains, M. C., U. S. Army.)

In presenting this series of cases of syphilis cared for by the Genito-Urinary and Dermatological Service at the U. S. Army Base Hospital, Camp Greene, N. C., we realize very fully the many shortcomings of this presentation. From November 1, 1917, to December 1, 1918, there were cared for in the Hospital 458 patients, while there were 323 cases of latent syphilis sent in from the Camp for treatment, making a total of 781 patients treated. To these 781 patients, 2,797 doses of arsphenamine and 1,228 injections of mercury salicylate were administered, the average dose of arsphenamine being .547 Gm.

It was the policy of the Service at all times to keep in the Hospital and treat all those patients having active manifestations of the disease until they were cured. For sometime it was the policy of the Camp Surgeon to have all anti-syphilitic treatment administered at the Base Hospital, but owing to the distance of the Hospital from the Camp it was later decided to open a Venereal Infirmary in the Camp, at which all latent syphilitics and chronic gonorrhoeas were treated.

It was the intention of the Chief of the Service at the Base Hospital to give a course of six doses of arsphenamine and twelve injections of mercury, each administered at weekly intervals, then after a period of one month or six weeks without treatment, have a Wassermann test made. If this plan could have been carried out we would have been able to report the result of the treatment, but under the later ruling of the Camp Surgeon, when the treatment was divided and the Chief of the Service at the Base Hospital had nothing to do with the pateints after they left the Hospital, it was impossible to follow the patients and the results of the treatment. On the other hand, the Chief of the Venereal Infirmary many have outlined a course of treatment different from the one outlined at the Hospital.

The 323 cases of latent syphilis treated at the Base Hospital from the Camp, were sent in by the Regimental Surgeons with a Syphilitic Register showing that they had had treatment previously or else the serum reaction justified their beginning treatment.

Of the 458 cases cared for in the Hospital, eleven of them were latent syphilitics who were in the Hospital for other diseases, gave a history of syphilis and positive Wassermann and took treatment while there. Of the 447 cases of active syphilis, 189 were primary, 240 secondary, 14 tertiary and four cerebro-spinal. The few cases of tertiary syphilis differ greatly in proportion from what is seen in civil life due, of course, to the ages of the patients we

were treating. There are not enough of these from whom to draw any conclusions, so they will not be discussed further. There were more than four cases of cerebro-spinal syphilis seen, but these were referred to the Neurologist on the Medical Service and, if treated at all, were treated there, but as a rule these men were discharged without any treatment, unless it was some intravenous arsphenamine. There were also treated for the Gastro-enterologist, a number of cases of syphilis of the stomach, the result of which we have no record.

During the administration of these 2,797 doses of arsphenamine, in which nearly all of the arsenical preparations furnished by the Government were used, we learned that there should be definite indications before the drug is used, for it cannot be said that its administration is without danger. In this series we had all the reactions, including one death, that one reads about in the current literature. As to the cause of these reactions, we do not think there is any one cause that will apply to seventy-five per cent of the reactions. We are inclined to the belief that the greatest proportion is due to anaphylaxis, a number to the condition of the gastro-intestinal tract, and still a number to the mental condition of the patients. It was our pleasure to prepare the solution in the most approved fashion that could be obtained at that time. In the early life of the Hospital, when we had none or few facilities, we will admit we used at times sterile tap water, and we must confess that our reactions were no greater than when we used doubly distilled sterile water. The most frequent mistake we find in the preparation of the solution is that we are more liable to give a too acid solution than a too alkaline one.

### PRIMARY SYPHILIS.

If syphilis is to be efficiently treated, the treatment should be begun during the primary stage, and not only during the primary stage but before the Wassermann reaction has become positive. This is the ideal which we are coming more and more to obtain. In this series of 189 cases of primary syphilis cared for in the Hospital, we have complete histories on 172. Of this 172 patients, twenty-three or thirteen and one half per cent were treated ideally: that is, diagnosis was made, confirmed by positive spirochete, and treatment begun before the Wassermann became positive. As the value of early diagnosis becomes more and more impressed on the profession and the laity, more of these cases will be treated in this manner. We do not think anyone doubts that syphilis can be cured if treatment is begun before the Wassermann reaction becomes positive, but many syphilographers doubt its being cured after this stage is reached.

The diagnosis of the primary stage of syphilis is harder and gives more trouble than the other stages of syphilis. There are so many ulcers and lesions of the genitals with which syphilis can be confused, and the clinical features of the chancre are so very variable that the making of an early diagnosis is at times a task. There are lesions which an experienced man recognizes at once as syphilis, and for which he does not hesitate to make the diagnosis and institute treatment even without the aid of the microscope, but there are others that so resemble the chancroid and other lesions of the genitals that he is compelled to rely solely on the laboratory for diagnosis.

It is our opinion that the profession is becoming more and more reliant upon the laboratory for the diagnosis of syphilis, with which we agree provided the laboratory diagnosis concurs with our clinical diagnosis, or if we are undecided we are willing to let the laboratory help us decide, but we are inclined if there is a disagreement to take our clinical diagnosis in preference to the laboratory.

Volumes have been written on the clinical features of the chancre and chancres have been given all varieties of classifications, some of which sound very prosaical while others are inclined to be poetical, whereas in reality all of the classical features of the chancre have their many exceptions. Our experience has been that the getting of an accurate history in the Army as to the period of incubation of primary syphilis is very unreliable. There are certain restrictions placed upon, and certain penalties imposed on, all those who contract venereal diseases in the Service. Soon the more intelligent ones learn to concoct a story to suit their particular case so as to evade these impositions, and those not so intelligent, mostly negroes, can give you no definite history, so that we learned to pay very little attention to the period of incubation in forming an opinion as to whether the condition had the incubation period of a chancre or chrancroid.

Induration is one of our main signs in making a diagnosis, but the exceptions to this sign are so numerous that it should be looked upon with suspicion. There was one class of cases we recall in particular that were manifested by an indurated fissure of the margin of the prepuce. They had nearly every characteristic of the chancre, yet the spirochete remained absent and the Wassermann negative. These conditions existed in that class of men with long tight prepuces. Upon retraction of this prepuce, the margin would crack and every successive retraction serves to increase the irritation and formation of connective tissue at this point and resultant induration. On the other hand, there is many a chancre which in the beginning (and this is the time the spirochetes are abundant and treatment should be instituted) shows no signs of induration, but just a red superficial ulcer as pliable as the skin or mucous membrane on any part of the body. In this series of cases nine per cent proved to be multiple, while in our 195 cases of chrancroids thirty-four per cent were single. So the old rule, chancres are single and chancroids are multiple, has its exceptions. Our percentage of multiple chancres was a good deal lower than the average, which was due to the fact that one of two things or both had to exist before we would diagnose multiple chancres; one being the clinical features of any and every ulcer leaving no doubt in our mind as to its being a chancre, and the other the presence of the spirochete pallida. The Wassermann would not help us any in this case, for the Wassermann could become as positive from one chancre as from a number.

The diagnosis chancroid on our service was made by exclusion, as we and the laboratory men with whom we were associated believed it possible only in a very small percentage to make the diagnosis of chancroid by finding the bacillus of Ducrey. So we have diagnosed and classified all conditions chancroids which had the clinical features of chancroids and could not be classified as syphilis or other known lesions. Primary syphilis was complicated with chancroids in thirteen per cent of this series.

A suppurating inguinal adenitis in conjunction with an ulcer on the genitals does not necessarily mean that the ulcer is not luetic, for one knows that even in the bubo complicating the chancroid the cause of the suppuration is pyogenic infection and very seldom due to the bacillus of Ducrey. If so, why should not that same pyogenic organism enter the inguinal gland by way of the chancre as well as the chancroid and produce a suppurating adenitis?

Undoubtedly the most valuable indication of the presence of any syphilitic lesion is the spirochete pallida. There is always in our mind an error of doubt in the Wassermann reaction because of the many errors that might creep into the making of this reaction, and also because there might be other diseases with which the patient is suffering that would cause an erroneous conclusion, but the finding of the spirochete pallida on the dark field, by one who knows the pallida from the other forms of the spirochete, leaves no room for doubt. It is our impression that the dark field method is the most reliable for diagnosing the spirochete pallida from the other species of the spirochete, for here we see the spirochete in motion, and the motility is one of the most important, if not the most important, characteristic of the spirochete palllida. A negative finding means that very likely the lesion has been treated by antiseptics; that the lesion has been present a long time and instead of the spirochetes growing on the surface they have penetrated into the deeper layer of the chancre, or else that the lesion is not syphilitic. In case the lesion has been treated by antiseptics, it should be dressed in normal saline solution for 48 to 72 hours before we can hope to find the spirochete. In case the lesion is an old one, serum obtained from the deep layers of the ulcer should be examined. We have never been very successful in obtaining the spirochete from the inguinal glands by puncture. Very often the question will arise as to how many dark field examinations should be made, and the answer is an indefinite number or until the organisms are found. At times they will be located on the first examination, at others, not until the twelfth or the twentieth. The positive Wassermann is the last sign to appear in primary syphilis. This will become positive at varying intervals. We have gotten positive Wassermanns three days after the appearance of the lesions, taking the patient's word for the time of appearance of the chancre.

We would hardly like to say an ulcer was positively not syphilitic, unless there were no secondaries and the Wassermann was not positive for a period of three months. The Wassermann should be performed at least once every week, and better twice. It was always our routine to confirm one positive Wassermann by another in case our clinical symptoms were very doubtful. We should never lose sight of the fact when we get a positive Wassermann that the patient may have latent syphilis and that the symptoms are not those of syphilis but of some other disease which exists at the same time as the latent syphilis. We have been forced on a number of occasions to make a diagnosis of chancroids and latent syphilis when the history was one of having had syphilis before and very likely having had treatment, but the clinical signs were those of chancroids and the examination for spirochetes was not positive.

The average length of time spent in the Hospital by these primary syphilitics, which comprised the time consumed in making diagnosis and taking treatment until all active lesions were healed, was 22.4 days; the number of doses of arsphenamine three, and injections of mercury two. The uncomplicated cases stayed only twenty days in the Hospital, while those complicated with chancroids averaged 37.3 days.

The locations of the lesions were in sixty-seven per cent on the prepuce, fourteen per cent in the coronal sulcus, six per cent on the glans penis, five per cent on the shaft of the penis, four per cent on the frenum of the prepuce, two per cent in the meatus urinarius, and two per cent on the tongue. Of the latter two were musicians and evidently contracted the disease by letting infected persons use their instruments.

It has been the opinion of one of us (Ross) gained from civil life, that the negro was more easily cured of syphilis than the white man. His Wassermann will become negative sooner, stay negative longer on less treatment than the white man's. This impression was carried in the Army, and we find that 46 cases of primary syphilis, in the white man, spent an average of 28.75 days in the Hospital and took 4.2 doses of arsphenamine, whereas the 126 cases of primary syphilis in the negro, stayed in the Hospital on the average of 21.3 days and took 2.44 doses of arsphenamine.

SECONDARY SYPHILIS.

The diagnosis of secondary syphilis was made from the history (which was of great deal more value than in the primary stage because, generally speaking, no penalties could be imposed), the clinical manifestations, and the Wassermann reaction. The Wassermann reaction in this stage is, of course, of more value than in any other stage of syphilis, but we always considered it one manifestation of syphilis only, and still depended upon our clinical signs in helping arrive at a diagnosis. We might also say that in a number of cases, the dark field examination was availed of for immediate confirmation of the clinical diagnosis, which was later confirmed by the Wassermann reaction. Caution should always be exercised in the use of the dark field for the examinations of lesions of the mouth, because the mouth is the natural habitat of other species of spirochete. The Wassermann was positive in ninety-six per cent of our secondary syphilitics, the other four per cent were given treatment upon a diagnosis made from history and clinical manifestations, although the reaction was negative.

In the 240 cases of secondary syphilis, the mucous patch comprised fifty and one-half per cent of the clinical manifestations, the syphilides nineteen and one half per cent, adenopathy twenty-six per cent, the condylomata two and one half per cent, and alopecia one and one half per cent. The distribution of these lesions might be of interest, twenty-seven per cent of the mucous patches were on the prepuce, fifteen per cent on the glans penis, twelve per cent on the tonsils, eleven per cent on the lips, nine per cent on the tongue, eight per cent on the cheeks, four per cent on the gingiva, four per cent on the scrotum, three per cent in the pharynx, three and one half per cent on the shaft of the penis, two per cent on the fauces, and one and one half per cent on the uvula.

Fifty-five per cent of the syphilides were macular, thirty-four per cent were papular, six per cent were pustular, three per cent were annular or circinate on the face, and two per cent were erythematous.

Of the condylomata forty-four per cent were around the anus, thirty-three per cent on the prepuce, twelve per cent in the coronal sulcus, and eleven per cent on the scrotum.

Of the adenopathies, seventy-one per cent

were general while in twenty-nine per cent the inguinals alone was involved.

The average length of time spent in the Hospital by these 240 cases of secondary syphilis, which included time occupied in arriving at diagnosis and administering treatment until all active lesions had healed was 15.96 days, the average number of doses of arsphenamine was 2.5 and injections of mercury 2. The secondary lesions were more superficial and consequently healed more readily than the lesions of primary syphilis. Again the diagnosis was more easily made, and not so much time consumed in this manner.

SUMMARY.

No one sign, either laboratory or clinical, should be depended upon for the diagnosis of syphilis, but the laboratory and clinical signs should be closely examined and conclusions reached by a study of all the information available, never forgetting that the diagnosis of syphilis was made long before the advent of the Wassermann.

The ideal time to begin treatment in syphilis is before the appearance of the positive Wassermann during the primary stage. This should be our aim in our future relations to the treatment of this disease.

Nine per cent of our chancres were mutliple while thirteen per cent were of the mixed variety: that is, both chancres and chancroids were present.

Primary syphilis can be diagnosed and all active lesions healed in twenty days, with an average administration of three doses of arsphenamine and two injections of mercury.

Secondary syphilis can be diagnosed and all active lesions healed in sixteen days and with two and a half doses of arsphenamine and two injections of mercury.

The administration of arsphenamine is not without danger and it should not be administered except when indicated, which indication is the existence of syphilis, active or latent, and then only under the best conditions possible, and by one who can meet any emergency that may arise.

The negro is more amenable to treatment than the white man, as shown by the length of time spent in the Hospital by the two classes of patients.

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## RETROVERSION OF THE UTERUS WITH SPECIAL REFERENCE TO ITS SURGICAL TREATMENT.*

By ARTHUR S. BRINKLEY, M. D., Richmond, Va., Associate Surgeon, St. Elizabeth's Hospital.

This paper is presented not to offer any new operation for retroversion, but to take up and discuss the anatomic and surgical principles underlying the entire subject of the treatment of this rather common condition. The uterus is very largely an intra-abdominal organ. All intra-abdominal organs are supported almost entirely by peritoneal folds. The peritoneum is supported in turn by a loose connective tissue which holds it loosely but persistently to the abdominal wall except at its upper attachments, where it is firmly fixed and blended with the diaphragm. Strictly speaking, the abdominal organs which we refer to as intraperitoneal are all extra-peritoneal in as much as every organ lies between two layers of peritoneum made as if the organ had been pushed into the peritoneal sac from outside and had become adherent to it.

New ligaments are formed during fetal development and rotation by the contact of two peritoneal surfaces which adhere, blend and become obliterated at point of contact. This may be illustrated by the rotation of the colon which goes upward and to the right and adheres to the peritoneum of the posterior abdominal wall and thereby forms the mesocolon. The spleen rotates to the left, comes in contact with the peritoneum of the posterior abdominal wall, adheres to it, obliterates the endothelial coverings and thereby the ligament of the spleen is formed and it is fixed on the left side. The omentum grows from the lower border of the stomach down over the transverse colon and adheres to it at the point of contact, its surfaces blend and we have the gastro-colic ligament or gastro-colic omentum. If the peritoneal surface of the stomach is plicated by bringing the anterior superior border and the anterior inferior border together and holding them firmly by peritoneal sutures, all of the space enclosed by this line of sutures becomes obliterated. If the omentum is sutured to the abdominal wall and held firmly, the surfaces blend and a complete partition is made across the abdomen. If the lesser omentum is plicated for a gastroptosis,

*Read at a meeting of the Junior Medical Society of Richmond, Va., December 14, 1917.

Beyea has found that the surfaces blend and the omentum or ligament is permanently shortened. The Kelly operation for suspension of the uterus proves more conclusively than anything else the certainty of the blending of peritoneal surfaces for we find that after Dr. Kelly's operation (which does not use one-twentieth the amount of peritoneum found supporting other organs of equal weight) in only a small percentage of cases does the uterus fall back and then the ligament is usually found not broken, but attenuated to a thread. This operation has probably been done more times than any other intra-peritoneal operation, with the exception of the removal of the appendix, tubes or ovaries, and with remarkable success when we consider that it first struck the vital point of treating displaced organs. Alexander unwittingly used the same principle in drawing out the round ligament and, with its covering of peritoneum which blended at the internal ring, shortening the anterior fold of the broad ligament just so much as there was of peritoneum passing through the internal ring. The operation was later spoiled by meddlers who pushed the peritoneum back off the ligament. As a result, the operation has fallen largely into disuse. The Gilliam, the Mann, the Simpson, the Baldy-Webster operations for retroversion and all the operations, which are used today and have been found to be successful, use the peritoneum of the broad ligament. Consequently, I think the formulation of the following rule is justified: "Two peritoneal surfaces brought together and held firmly in an aseptic state, adhere, blend and obliterate, and the contiguous surfaces lose their endothelial covering, becoming continuous at the point of peritoneal contact."

The uterus, however, differs from the other peritoneal organs in that it is permitted a wider range of motion because of its function; also, in that it is connected directly with the outside and therefore must be protected from extension of direct infection. Because of the necessity for extraordinary mobility, the peritoneum of the broad ligament, the principal ligament, is attached extensively before and behind to the sides of the uterus and well down near its middle between the fundus and the cervix. Thus a very extensive attachment of peritoneum supports the uterus and the large amount of loose connective tissue holding the peritoneum to the fixed wall of the pelvis gives it a wide range of mobility.

Owing to the fact that such a variety of positions must be assumed, it becomes necessary to have some other means of automatically or involuntarily poising this organ and keeping it in this position at right angles to the body. Therefore, the round ligament becomes a necessity and is, histologically, perfectly constructed for such a function as indicated by the following definition taken from Sobotta: "In addition to the broad ligament, the uterus possesses other ligaments which are to be regarded as a continuation of its musculature. The most important of these is the round ligament which is essentially a cylindrical or slightly flattened muscular cord twelve to fifteen cm. in length, which takes origin on either side from the anterior surface of the uterus in the vicinity of the uterine extremity of the tubes, and runs at first almost horizontally, then forward and downward between the two layers of the broad ligament covered mainly by the anterior one. In the vicinity of the uterus, the ligament is thickened and consists solely of connective tissue and non-striated muscle, but in its course through the inguinal canal it usually receives fasciculi of striated fibers from the internal oblique and transversalis which are continued on it for a varying distance, frequently extending almost to the uterus but never passing externally beyond the inguinal ring." He further says: "Similar continuations of the uterine musculature are the recto-uterine which run in peritoneal folds of the same name and connect the superficial musculature of the rectum with that of the uterus. The utero-sacral ligaments are connective tissue fasciculi which accompany the similarly named folds to the region of the second and third sacral vertebrae where they fuse with the peritoneum."

Taking up the physiology, we find that a muscle fiber has no other function than that of contraction and producing motion. We also know that a muscle fiber will under no circumstances stand a continuous strain, and that a muscle is therefore totally unfitted for taking up the work of a ligament proper. Consequently, the only physiologic function for which the round ligament could be used would be for producing motion, aside from the func-

tion performed by the connective tissue, which is an extraordinary precaution to prevent the uterus from being extruded. It is therefore, very evident that the function of the round ligament must be that of automatically poising the uterus during the various positions assumed by the individual and thus preventing it from becoming a dead weight on the broad ligament.

Of the many operations advised for correction of retroversion, I believe that devised by Coffey, of Portland, Oregon, is by far the best. Certainly, the physiological and anatomical principles appeal to me more forcibly than the various other methods of procedure. A. M. Willis of Richmond, Va., advises a modification which seems to be particularly suited for milder cases. In doing the typical Coffey operation, the technic observed is as follows: Before beginning the operation proper, break up adhesions, treat adnexa, lifting the uterus, and pack a sponge back of it. This holds the fundus up in place or partially so. Then seize the round ligament about an inch and a half from uterus and with a No. 2 tanned catgut, stitch to the antero-lateral border of the uterus at the beginning of the vesico-uterine fold. Place three or four similar sutures between this point and the uterine end of the ligament. Thus a double fold of the broad ligament is brought over to the side of the uterus. Seize the ligament an inch and a half further on and bring it up to a point just close and internal to the uterine end of the round ligament and fasten with a tanned catgut suture. Place three or more interrupted sutures between this and the first suture at the vesico-uterine fold. Thus two more peritoneal or broad ligament layers are brought over to the side and front of the uterus. With a No. 1 tanned catgut continuous suture, bring a fold of peritoneum from each side over the line of interrupted sutures. This continuous suture may include as much of the peritoneum as necessary to bring it taut. Care must be taken to avoid pulling on the bladder and also to avoid including the entire thickness of the round ligament in any of the rows of sutures. In this operation, as proved by results seen afterward, all the requirements of the anatomic and surgical principles set forth have been fulfilled. The broad ligament which is the principal support of the uterus has been shortened, and the action of the round ligament has not been permanently hampered but on the contrary it has been permitted to regain its normal strength so that while the uterus is supported constantly by the broad ligament, it may also, by the restored round ligament, be poised to suit the changing positions of the body.

I have found the Willis modification of the Coffey operation to be very satisfactory. Here a bite is grasped in the round ligament on either side far enough from its attachment to the uterus to take up the slack and bring the uterus in proper position. Then the ligaments are anchored to the anterior superior surface of the fundus midway between their uterine attachments. A tanned catgut suture is used for this, long enough for a continuous suture. By making slight backward traction on the uterus, the antero-lateral attachments of the broad ligaments on both sides are plainly exposed. The folds of the broad ligaments are hereby approximated across the anterior surface of the uterus with a continuous stitch taking a good bite in the uterine musculature every time until the vesico-uterine fold is reached. There the suture is continued backward to cover in the previous row of sutures by a fold of peritoneum from each broad ligament. The suture is tied at the point of starting. I have used this operation exclusively for the past three years in all cases except those of a very marked degree, and where the ligaments were so relaxed that the slack could not be taken up by this operation. The results following this operation have been most gratifying.

## INTUSSUSCEPTION.

By ORRIN K. PHLEGAR, M. D., Graham, Va.

*Case I.*—J. M., eight months old boy, breast-fed, was taken suddenly ill 3:00 p. m., April 25, 1919. I was called at 4:30 p. m., and found this little child in great misery at intervals of about every thirty minutes. Bowels had moved several times since the attack, no fecal matter, but a great deal of bloody mucus; temperature subnormal; pulse 96, vomiting about every thirty minutes. Child seemed normal between these attacks. Palpation revealed a small tumor in the right abdominal region, about two inches above and on a line with McBurney's point.

Diagnosis: Intussusception.

High enema of saline solution used with patient's hips elevated; no results except the passing of water, blood and mucus.

Baby taken to the Bluefield Sanitarium and a right rectus incision was made by Dr. Wade St. Clair, the ileo-cecal junction being the objective point. Part of the cecum and appendix was swallowed up by a section of the small intestine. Intussusception reduced; baby was doing well and apparently feeling fine when it left hospital on the sixth day.

*Case II.*—H. C., nine months old boy, breast-fed, was taken sick suddenly in the afternoon of April 28, 1919. I was called on April 29, the following morning. Found baby very restless, but not suffering any real acute pain, vomiting about every 30 minutes and bloody mucus passing from the bowel. This baby was very fleshy, hence palpation revealed nothing abnormal except the subjective symptom of tenderness.

While about to hazard a diagnosis of intussusception and scarcely believing that I would find another case within a week, the mother informed me that the baby had swallowed something while playing on the floor the day before, so this changed my opinion relative to the case. However, I used the high enema of saline solution without results except as in Case No. 1—bloody water and mucus.

This patient living a long distance from me in the mountains without roads, I advised the parents, if baby's condition was not improved by morning, to bring it to Bluefield and we would have an X-ray examination.

Upon entering the hospital an X-ray examination was made which did not show any foreign body in the intestinal canal. The patient was placed upon the operating table and a right rectus incision made by Dr. J. Francke Fox, of Bluefield Sanitarium. An intussusception was located at the ileo-cecal junction where the small intestine was acting as sheath for about four inches of the large bowel. This impaction did not fit so closely, which I presume accounted for the symptoms being less acute than in Case No. 1. Baby was doing well and looking all right six days later at the time of making this report.

Can any reader give us any late information concerning these conditions; why do they occur mostly in male children and why do they occur at all?

# Proceedings of Societies, Etc.

## NORFOLK COUNTY MEDICAL SOCIETY.

Monday, June 2nd, was a red letter day in the calendar of the Norfolk County Medical Society. It was the occasion of the annual election of officers, which this year was an event of more than usual interest, amply evinced by the large number of members present.

It had been rumored that for the Presidency two of the prominent members of the profession would be in nomination. Both of these are held in high esteem by the physicians of the city, and indeed of the State and National organizations. Both were well qualified to fill the office, and it has evolved that each was fully determined that the other should bear the honor.

When nominations were called, Dr. Southgate Leigh, the retiring vice-president, according to custom entitled to succeed to the chair, adroitly obtained the floor. In a speech that was a masterpiece of eloquent and graceful fribute to the character, attainments and record, both civil and military, of Dr. (Major) R. L. Williams, he placed that gentleman in nomination. So forcefully did Dr. Leigh present and press his nomination that he carried with him his own supporters, many of whom had come with a determination to place him in the chair, and made such an impression on his auditors that for the first time in the annals of the Society the presidency was conferred by a unanimous rising vote, a splendid tribute both to the unselfish action of Dr. Leigh and the high regard of the members for Dr. Williams. It was no more than fitting that a few moments later precedent was again set aside and in the same enthusiastic manner Dr. Leigh was re-elected vice-president.

There remained one other office to fill, as Dr. W. P. McDowell insisted upon being relieved of the onerous duties of Secretary-treasurer. As a further evidence of the harmony prevailing among the Norfolk doctors, the unanimous vote of the Society was cast for Dr. Lockburn B. Scott.

Well merited enconiums were pronounced upon the efficient service rendered by the retiring President, Dr. Powhatan S. Schenck, who during his term of office has been honored with the responsible position of Director of

Public Welfare of the City of Norfolk, and Dr. W. P. McDowell, who as Secretary-treasurer has been unremitting in his efforts to re-establish the affairs of the Society upon a pre-war basis. To the fidelity, wisdom and zeal of these officers is due in large measure the present satisfactory condition of the Society which suffered heavily from war conditions and other adverse circumstances.

One very marked and gratifying result of the wisdom of the retiring Executive is shown in the revival of interest in the work of the Society among the physicians of the sister City of Portsmouth. Though members of the Norfolk County Society, these gentlemen found it difficult to attend the sessions. Arrangements suggested and carried out by the Executive resulted in the holding of special sessions of the Society in Portsmouth, and these are being attended and enthusiastically supported by the resident physicians of that city.

It is safe to assert that never in the history of this old time Society has more genuine harmony prevailed among its membership, and no brighter prospect for success has been known.

## THE BEDFORD COUNTY MEDICAL SOCIETY.

The Bedford County Medical Society, at its regular monthly meeting May 26, in Bedford, elected the following officers: President, Dr. E. L. Marshall, Big Island; vice-president, Dr. T. P. West, Bedford; secretary-treasurer, Dr. W. O. McCabe, Thaxton (re-elected.)

A number of clinical cases were reported by various members, after which Dr. J. A. Rucker, Bedford, read a very interesting paper on "Spanish Influenza."

W. O. McCabe, *Secretary.*

# Analyses, Selections, Etc.

### A Roentgenological Manual For Chest Examination.

Believing that no chest examination is complete without the help that the X-ray can give us and with the view of taking a step toward standardizing the technique of such examinations, Kennon Dunham, of Cincinnati, summarizes methods of procedure which he has found to be of most value and which he believes necessary to proper X-ray work on the chest. His purpose is to accurately describe the technique which he has selected as giving best a definite norm, with which the record of pathological densities may be compared; and, further, to point out a few proved pathological causes of certain abnormal densities. An examination should consist either of the fluoroscopic or stereoscopic method. The single plate adds practically nothing to the fluoroscope, as it has the disadvantage of not being able to show motion or to permit the examination of the chest from various angles. The stereoscopic method has the unique advantage of definitely locating the lesion with regard to its three positions in the thorax, and allows a detailed study of the character and distribution of abnormal density. With the fluoroscope the extent of the diaphragmatic excursion should always be noted. Diaphragmatic adhesions can best be studied by this method. The usual line above a pleural effusion is concave, but pleural effusion may be so encapsulated that it is held in abnormal positions, even perpendicularly along the chest wall. The line above hydro-pneumothorax, when the patient is in the upright position, is always horizontal. The bright area of decreased density above may be somewhat obscure if the lung is collapsed toward the anterior or the posterior wall rather than toward the spine. Thus the value of observing the patient from various angles is apparent. The line above a pleural effusion associated with lung tumor is usually convex. Upon change of position the line above hydro-pneumothorax moves freely; that above pleural effusion does not move, while that above pleural diffusion associated with lung tumor ant transudates moves slowly. In stereoscopic examination the shortest possible exposure giving good detail is the best. Six seconds is the maximum time allowed from the beginning of the first to the end of the second exposure. Longer exposures produce a fuzzing of the linear markings, which simulate early tuberculosis. Do not allow breathing between exposures. Should the patient be very short of breath, administer oxygen. Exposures should be made with the lungs moderately well filled. The sitting position is the position of choice, and the plate should be in front of the patient. The arms should drop with hands in the lap, elbows turned out, for this throws the scapula to either side of the

thorax. The patient should be held firmly to the plate. The author goes on to describe in detail the particular parts of the chest to which attention should be paid. He divides each side of the thorax into several parts and tells what structures are to be noted and what are their normal shadows in each part.

The characteristic tuberculosis plate marking consists of a fan-shaped density with the base of the triangle toward and near the pleura, the apex toward the hilum and connected to the hilum with a heavy trunk. If we have two or more such areas of differing densities we have a picture pathognomonic of tuberculosis, since tuberculosis is a disease of successive infections. The greatest density indicates the oldest lesion. The pathological lesion within the lung which causes this fan-shaped density on the plate is a cone with its base to the pleura and its apex toward the hilum. The density within this fan-like area varies greatly. The radiating linear markings may either be interwoven, broadened, studded, obscured by filmy cloud effect, mottled, matted together or entirely blotted out. Striking characteristics of the tuberculosis picture are the varying degree of change in the different trunk groups, in contrast to the general homogeneous change in diseases which might simulate tuberculosis, and the lack of continuity with which the trunks may be involved. Thus we may have only the vertebral and second interspace trunks of an upper lobe involved, leaving the first interspace trunk clear. Further it is very striking to note the constancy with which early or slight lesions in the adult are limited to the trunks of the upper lobes.

If the fine linear markings of a given trunk are fuzzy or are faintly obscured by a cloud effect and the fan appears to be wide open, active tuberculosis is suggested. On the other hand, if the linear markings in a limited area are sharply defined and dense and show clean-cut studding beyond the trunks and the fan is partially closed, a healed lesion is suggested. This condition is emphasized if it is accompanied with heavy, coarse interweavings which reach to or near the periphery. The heavy trunks between such areas and the hilum are usually broad and dense.

Miliary tuberculosis produces a very striking picture. The lung fields are studded with fine dots of increased density, which may be discreet or confluent. The density of these areas varies from the faintest cloud to brilliant spots produced only by calcification. This differs from the common form of tuberculosis in the fact that its roentgen plate strongly suggests, but does not definitely diagnose, tuberculosis. Anthracosis simulates the calcified variety of miliary tuberculosis. It has the same distribution of studdings, but each density is more stellate, larger, sharper and thicker. Carcinoma sometimes simulates the uncalcified tubercle. When the age, history and symptoms are considered in conjunction with the plate, there is usually little doubt as to the diagnosis.

Caseous bronchopneumonia produces a definite, heavy, flocculent density. It is not usually seen in the apices, but in the more dependent parts of the lung. Its position and appearance suggest that it is the result of aspiration. The fan may or may not be in evidence. If a small lesion near the pleura is involevd this will be walled off by heavy septa and the flocculent densities will appear just beyond a trunk of increased density. Then it will have the triangular shape of the fan, but the sticks of the fan will not be in evidence. When there is a large lesion, it is often impossible to make out from the plates the individual triangles. When such a condition exists at the base there is usually evidence of an old lesion at the apices, and frequently there is a cavity.

Besides tuberculosis the author takes up a number of other pulmonary conditions which may give more or less the same shadows and differentiates these from those produced by tuberculosis. (*American Reriew of Tuberculosis,* 1918, Vol. 2, No. 9.)

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**Medical Treatment of Biliary Affections.**

Rehfuss in the Medical Clinics of North America (Philadelphia number, November 1918), under the head of diagnosis of biliary disease says:

In the diagnosis of biliary disease the internist is armed with a new and valuable procedure in the shape of duodenal intubation. In this way the bile can be studied directly as is the gastric secretion, and the various forms of chemical analysis can be applied to the material removed. In other words, we can make an examination of the bile from the standpoint of its chemical constituents, namely cholesterol, bile-pigaments, and salts, urobilin and urobilinogen, calcium content, as well as

the determination of viscosity; from the microscopic examination, the presence of mucus, pus, blood, and laminated cholesterol plates; and from the bacteriologic examination, the determination of the presence of pathogenic bacteria.

Inasmuch as all these procedures depend for their determination on an accurate method for obtaining bile, the following details are given; the patient is examined the first thing in the morning upon an empty stomach. After preliminary rinsing of the mouth with some antiseptic solution, the long fractional gastro-duodenal tube is passed, according to the ordinary technic, for seventy cm. or more. Ordinarily I pass a length of tubing sufficient to go from the mouth, externally, to the anterior superior spine of the ileum. The tube is usually passed with the aid of beef-broth or bouillion which has been sterilized by boiling. If the broth is given at the same time that the tube is swallowed the passage of the instrument is materially facilitated. Occasionally the tube will be found to enter the stomach more readily after milk is ingested, the digestion of the curds apparently favoring the passage of to tip. As soon as the tube is introduced the patient is turned on his right side with the left leg drawn up and thrown over the right in order that the pelvis be definitely rotated in that direction. The lapse of time before the tip enters the duodenum varies with every individual; in fact, there is no method by which we can predict the duration of time necessary to intervene before bile is obtained. The bile is readily recognized by its appearance, and it will be noticed that the flow is intermittent.

In obtaining bile cultures the following procedure is the one which has recommended itself to us; after the bile is obtained the patient is put in the fully recumbent position with the head directed toward the edge of the bed, the remaining two feet or more tubing is allowed to remain suspended over the side of the bed in such a way that by siphon action there will be a tendency toward a steady flow of bile. After the flow has commenced and the first part is thrown away, three culture tubes are used in the following way: the first tube is placed under the drip without allowing the tube to come in contact with the fractional tube and after the first culture of bile is obtained the second culture-tube is used in the same way, followed, in turn, by the third.

This method has its advantages and its disadvantages, which are readily apparent even upon superficial observation. The disadvantages are the following: it is difficult to maintain the sterility of the tube owing to the fact that its transit into the duodenum must necessarily lead through organs which can be only incompletely sterilized; second, the bile is not usually obtained in a pure state, being associated with the pancreatic secretion, the succus entericus, and not infrequently some of the gastric contents. This means that infection in this region can be also ascribed to a duodenitis.

On the other hand, the following points can be claimed for the method: after the initial flow of bile the material obtained is remarkably uniform, as are the resulting cultures. It therefore follows that external contamination will not give a uniform appearance in the various culture-tubes. Accidental contamination is recognized by the presence of isolated colonies and the lack of uniformity in the appearance of the three culture-tubes. A true bile infection is recognized by the fact that all three tubes have practically the same aspect and contain the same bacteria. We know of no way by which organisms coming from pancreatic secretion can be dissociated from those seen in the bile, and for diagnostic and therapeutic purposes there is no pressing need for such a differentiation. We have encountered the streptococcus and pneumococcus only infrequently; the colon bacillus however, was far more apparent. Any form of media can be used. As routine procedures we employ blood-serum, agar, and bouillon. The vaccines are made in the ordinary way. The frequency of the colon bacillus has not yet been satisfactorily explained, whether it represents a form of elimination on the part of the liver into the bile; whether its presence is due to reverse peristalsis from the small bowel, as seen in the ascending or cecal type of constipation; or whether it represents a true infection, we are not prepared to state. Certainly the presence of abundant colon colonies is not a phenomenon of normal bile, nor is their presence in the upper duodenum to be associated with perfect health.

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**A New Operation for Duodenal and Gastric Ulcer.**

Dr. J. Shelton Horsely, Richmond, at the

A. M. A. meeting at Atlantic City, June 10-13, in the section on Obstetrics, Gynecology and Abdominal Surgery, quoted clinical statistics to show that gastro-enterostomy is not satisfactory in curing cases of duodenal and gastric ulcer and then discussed the fact that the operation is not a physiologic operation and that it merely relieved symptoms by lessening the peristalsis, for it is the peristalsis that causes pain by pressure on the sensory nerves of the stomach. He discussed Finney's pyloroplasty and Heineke-Mikulicz's, pointing out objections to these two operations. He called attention to the similarity between an ulcer in the pyloric region near the sphinteric action of the pylorus and fissure or ulcer in ano near the grasp of the sphincter ani. He described a new operation which was founded on the principle of giving physiologic rest to the pyloric end of the stomach and removing the pathology. The operation which he proposes divides the pylorus, but does not go more than an inch into the duodenum and is extended two or more inches into the stomach. The ulcer is excised or the contracting bands divided. The incision is so sutured that both ends of the sutured incision are in the healthy stomach wall. A piece of gastro-colic omentum is brought up and fastened over the line of sutures for additional security, to prevent adhesions to other structures, and to counteract the tendency of the pylorus to be drawn up high under the liver. A clinical report is given of eleven patients operated upon by this method. (*Aruthor's Abstract.*)

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**The Saliva in Pellagra.**

Laboratory investigations carried on by the Public Health Service at its pellagra hospital in Spartanburg, S. C., brought out some interesting data on the character of the saliva in patients suffering from pellagra.

It is well known that in pellagra the condition of the mouth, and especially of the tongue, is of considerable significance in establishing a correct diagnosis. In true pellagra the tongue is vividly red and more or less swollen. The literature also speaks of salivation as a symptom of pellagra.

The very careful quantitative studies made in these investigations showed that, though there were cases of increased salivary flow, the salivation spoken of by the patients was often apparent rather than real and was seemingly due to some inhibition of swallowing combined with a peculiar, ropy change in the saliva which made its presence in the mouth more obvious. A tendency toward a greater quantity of solids in the saliva of pellagra patients was also observed.

The investigations indicate that the diastatic power of the saliva of pellagra patients is at least as great as that of normal people. In no case, whether the flow of saliva was scanty or very copious, was the diastatic power lacking.

While the amount of mucus precipitated from saliva by acetic acid was greater for the saliva of the pellagra patients than for the controls, the increase is apparently unrelated to the severity of the symptoms, either general or oral.

The study of the sulphocyanate content of the saliva disclosed that this is much less marked in the case of pellagra patients than it is in the saliva of normal people. Since it is generally admitted that the sulphocyanate arises from the metabolism of protein and the detoxicating action of the system, whereby poisonous cyanides are converted into the relatively innocuous sulphocyanate, the investigators believe that in the pellagra patients there is both a lessened protein intake and a detoxicating power feebler than normal.

The reaction of the saliva in pellagra is somewhat more alkaline than is that of normal saliva. (*Public Health Reports, May* 16, 1919.)

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**Important Precautions in Administering Arsphenamine and Neoarsphenamine.**

Experience has shown that the untoward results occasionally associated with the administration of arsphenamine are due in a large measure to the use of too highly concentrated solutions of the drug, to too rapid administration, and to insufficient care in rendering the solution slightly alkaline.

The reader, therefore, may be interested in studying the following instructions just issued to medical officers of the Public Health Service regarding the administration of arsphenamine and neoarsphenamine. Careful observance of the precautions here described will reduce the number of reactions from the use of these drugs.

*General Directions.*—The ampule, before opening, should be immersed in ninety-five per cent alcohol for fifteen minutes in order

to detect any crack or aperture not primarily recognizable. (Should such a breach be discovered, the contents of the ampule should be discarded.)

ARSPHENAMINE

(1) *Solution.*—Cold, boiled, freshly distilled water should be used in all cases except in the case of "arsenobensol" made by the Dermatological Research Laboratory, in which case hot water is required. No more solution should be prepared at one time than can be given in thirty minutes.

(2) *Neutralization and alkalinization of the above solution.*—With a graduated pipette or burette add 0.9 cc. of normal NaOH for each 0.1 gm. of the drug (i. e., 5.4 cc. for each 0.6 gm.). The alkali should be added all at once and should quickly convert the acid salt solution of arsphenamine into the alkaline salt solution, or the disodium of salt of the arsphenamine base. (The solution of arsenobenzol, which is hot, should be cooled before adding the alkali). This represents slightly more alkali than just enough to redissolve the precipitate formed by the addition of this reagent.

The alkali used should be standardized against normal acid. Normal NaOH is a four per cent solution of the c. p. product. However, if made on the basis of weight, it may be considerably less than this strength, hence the necessity for titration. It could be made up in amount sufficient for a month's use if kept in a well-stoppered bottle and exposed to the air for only a few seconds at a time when using the solution. It should be kept in a bottle that has been used for NaOH solution for some time, so that all action it causes in the glass will have occurred. Where it is impossible to have this made up at the station, it will be furnished upon request from the Hygienic Laboratory. Should the NaOH solution become cloudy or contain a precipitate, it should be discarded.

(3) *Concentration of the drug.*—It is desired to emphasize the fact that the concentration of the drug should not be greater than 0.1 gm. to 30 cc. of final solution. The practice of using concentrated solution is not only in direct conflict with the instructions on the circular, but carries a distinct hazard to the patient.

(4) *Method of injection.*—The gravity method only should be used. Where several patients are to be injected from the same solution, the container for the solution should be graduated. If not already graduated, this can be done in a few minutes by sticking on a strip of adhesive plaster and marking the graduations on this. A convenient way to do this is to have each mark represent 30 cc., with a long mark for each 180 cc.; then, if the volume is made up so that each 0.1 gm. of drug is contained in each 30 cc., the doses can be given accurately. It is a great convenience to have a glass stopcock near the glass tubing, which serves as a window just above the needle in order to control the rate of injection. If no stopcocks are at hand, the rate can be controlled by the size of the needle and the height of the column of fluid. A No. 18 or 20 B. & S. gauge is the best sized needle.

(5) *Rate of injection.*—Operators should pay particular attention to the rate of administration and in no case should it exceed 0.1 gm. of drug (30 cc. of solution) in two minutes. This point is especially emphasized because it is believed that excessive rapidity of administration accounts for more unfavorable results in the use of arsphenamine than any other one thing.

NEOARSPHENAMINE.

The principal precautions to be observed in the administration of neoarsphenamine are:

(1) Only a single ampule should be dissolved at a time. This drug must not be dissolved in bulk to be given to a series of patients.

(2) Cold water only should be used.

(3) The dilution should be not stronger than 0.1 gm. of the drug in 2 cc. of freshly distilled water.

(4) A very small needle should be used, and the time of injection of the dose should not be less than five minutes. (*Public Health Reports*, May 23, 1919.)

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**Home Nursing Classes Started in Tenement Quarters.**

Five classes in elementary hygiene and home nursing for women are in full swing at the first Red Cross tenement headquarters opened in a four-room apartment rented by the Red Cross at 510 West 26th Street, New York City.

One class is made up of the younger women of the neighborhood, and the older women are instructed another evening. Complete equipment for teaching the course, with three beds, mattresses, bedding and a kitchen outfit, have been installed in the flat.

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## Editorial.

### Bronchial Asthma.

To every practitioner of medicine the subject of bronchial asthma should be interesting, not only because it is a syndrome that has long baffled medical management but also because its etilogy and mechanism in the body, along with a group of kindred conditions, such as, hay-fever, urticaria, angioneurotic oedema, and anaphylaxis, have never been satisfactorily explained. The beginning symptoms of asthma are often remote in kind from the symptoms appearing during an attack. The asthmatic patient rarely understands and seldom appreciates the significance of his experience of repeated "bad colds", or frequent "summer colds" or "easy to take cold with every changing season." Only after the genuine spasmodic attack of respiratory symptoms does he think of seeking medical aid. It is, however, in the light of the new thought on this subject that it is important for the physician to draw out in the history symptoms and experiences of the patient long before actual asthma-attack.

This is true because protein hypersensitiveness of the body appears to be at the bottom of this group of reactions. As is known, proteins are widely distributed in nature. They are known to produce in the (protein) body, by certain unknown and under yet unexplained conditions, marked anaphylactic symptoms. These proteins enter the body by four main routes: (a) inhalation, (b) ingestion, (c) absorption, (d) infection. By inhalation, the protein pollen from plants, emanations of animal dandruff and hair, and protein dust from grain, enter the respiratory tract. By ingestion certain protein (noxious) foods enter the gastro-intestinal tract. By absorption through the skin and conjunctivae certain proteins enter the body. By infection protein pathogenic bacteria enter the body as in the case of asthma originating from some focal infection. This last group is easily illustrated by the focal infections of the teeth, tonsils, nose, throat and lungs.

Walker* has recently made a study of four hundred cases of bronchial asthma with a view to unraveling this general subject as to the cause, the identification of the offending protein and the methods of prevention and treatment of asthmatic patients.

#### Animal Hair Protein and Food Protein Asthma.

Of the forty-eight patients who were sensitive to and treated with horse dandruff protein, Walker found sixty-three per cent were relieved of the asthma; of the four who were sensitive to and treated with cat hair protein, three were relieved of asthma; of thirty patients who were sensitive to cereal grains (wheat, corn, rice, rye) seventy-four per cent were relieved; of thirty patients who gave positive skin tests to food protein other than cereal (as potato, egg, fish, casein, chicken, beef, strawberry, spinach, peach) fifty per cent were relieved by omission from the diet of the offending protein.

#### Bacterial Protein Asthma.

Also, in Walker's 400 cases of asthma, twenty-eight were found sensitive to bacterial protein and treated with bacterial vaccine. The treatment consisted in the use of stock or autogenous vaccine of those bacteria to which they were sensitive. It seemed to make no difference whether the vaccines were stock or autogenous. Seven were treated with staphylococcus pyogenes aureus; others were reliev-

*Read Walker, I. C., Boston, Mass. A Clinical Study of 400 Patients with Bronchial Asthma. The Boston Medical & Surgical Journal. August, 1918, and other papers by same author.

ed by S. pyogenes aureus and albus; others by S. pyogenes aureus and streptococcus hemolyteus, etc.

Again, in a group of 150 patients who were non-sensitive asthmatics, seventy-five were treated with vaccines made from cultivating their sputum on plain agar; twenty-four were treated from vaccine made from cultivating their sputum in dextrose bouillon; and thirty-five were treated with vaccines made from cultivating their sputum both ways. Of these forty per cent were relieved and twenty per cent were improved.

### Pollen Protein Asthma.

The pollen asthma cases are interesting. There are three asthmatic periods caused by pollen. In the April-May period various trees pollinate, as willow, birch, maple, pine; in the June-July period various flowers and grasses pollinate, as the rose, orchard grass, redtop and timothy and other early summer grasses; in August-September-October period, the third and most important season, a group of wild flowers and weeds pollinate, such as the ragweed, golden-rod, daisy. The ragweed, however, it is thought, is the most frequent cause of asthma, beginning or occurring during the third period and with a seasonal recrudescent history. The ragweed season of pollination extends as a rule from early part of August to the middle of October. This division of bronchial asthma in groups according to seasons, however, will not apparently explain all the pollen-asthma cases, although the patients react to pollen tests of a definite season. For instance, there are patients who have asthma more or less continuously due either to the fact that the attacks are so aggravated that asthma is not relieved before the return of pollination, or that some succeeding pollen may additionally sensitize the patient, or that a bacterial infection may prolong the asthma, switching it to bacterial protein asthma.

### Etiologic Diagnosis of Bronchial Asthma.

Probably no syndrome requires more careful study in searching for the cause than does bronchial asthma. Certainly, little reasonable success can be expected in the treatment, unless the nature of the cause is discovered.

The history of the case requires diligent investigation. A distinctly seasonal hay-fever or asthmatic-patient who can tell you to a day or within a week of each annual attack, for instance, will enable the physician with reasonable certainty to classify him as a pollen protein asthmatic. Likewise, in the case of an asthmatic with a history associated with focal infection, chronic or recurrent bronchitis during winter months, and presenting signs of an inflammatory state of the mucous membrane, will give the examiner some ground for judging the case as one of bacterial protein origin. Again, in the asthmatic cases where the vocation is that of a baker, a miller, or commission merchant, one is lead to think that the asthma originates from some food protein, while certain habits of diet, as the eating of eggs, fish, potato, casein, may be the origin of the asthma. Further, the history of contact with animals that results in asthma or hay fever tends to show rather clearly the cause. It is always important to remember in all cases that there may be multiple factors at work, and, if the patient does not respond to a given treatment the other cause or causes should be discovered.

### News of M. R. C. Officers.

Dr. Lewis M. Allen, Gaylord, Va., who served in the army medical corps as a captain, has been promoted to the rank of major in the reserve medical corps in recognition of his services during the war.

Major Gerald A. Ezekiel, of this city, who was connected with the 311th field artillery, landed in New York the latter part of May.

Lt. John W. Robertson has recently been enjoying a furlough with his family at Onancock, Va., before entering upon his new duties at General Hospital No. 38, East View, N.Y.

Dr. G. E. Faulkner, U. S. N., of South Boston, has recently been transferred from the Base Hospital at Ft. Oglethorpe, Ga., to Hampton.

Major M. L. Anderson, of this city, returned the latter part of May from overseas service. He was regimental surgeon with the 311th infantry.

Capt. Charles M. Edwards of this city, recently in charge of the department of physiotherapy at Camp Dodge, Iowa, has been transferred to Ft. Riley, Kansas, where he will continue in charge of this work.

Capt. Joseph H. Hiden has received his honorable discharge from the medical corps of the army and has returned to his home at Pungoteague, Va.

Lt. Raymond C. Hooker, who was stationed at Camp Dix for sometime, has received his discharge and resumed his practice in this city.

Capt. Wm. Robt. Weisiger returned to America in May after service abroad for sometime. While in France, he was slightly wounded when a German airplane dropped seven bombs and demolished an ambulance in which he was riding.

Col. Robert B. Shackelford, formerly of The Plains, Va., has been promoted to the position of division surgeon of American troops stationed at Chaumont, France.

Capt. William Branch Porter has returned to his home in this city after service overseas, and has resumed his practice.

Dr. Clarence J. D.'Alton, who was connected with Ninetieth Division overseas, received his discharge last month and visited his mother in Petersburg, Va.

Capt. George V. Litchfield, Abingdon, Va., has received his discharge from the service and returned to his home.

**Another Hospital Planned for Richmond.**

Plans for the erection of a $75,000 hospital at the northeast corner of Broad and Thirty-sixth streets, facing Chimborazo Park, were agreed upon on May 26, at a meeting of representative professional and business men of the eastern section of this city. It was decided that a corporation should be formed with a capital of at least $85,000. Over fifty thousand dollars was subscribed at the first meeting. Tentative officers for the purpose of incorporation were agreed upon at this meeting. Drs. William H. Parker, Ramon D. Garcin and John R. Blair were elected vice-presidents.

Growing out of the discussion of the hospital project was the idea on the part of the Church Hill and Fulton men to form a business men's association. This they did, and Dr. William H. Parker was elected one of the vice-presidents of this association.

**The Medical Society of Northern Va. & D. C.,**

At its semi-annual meeting in Manassas, Va., in May, elected the following officers: President, Dr. S. B. Moore, Alexandria, Va; vice-presidents, Drs. H. T. A. Lemon, Washington, D. C., and James H. Ferguson, Clifton Station; recording secretary, Dr. William Thornwall Davis; corresponding secretary, Dr. Joseph D. Rogers, and treasurer, Dr. Robert S. Lamb, all of the last three named being of Washington, D. C.

**Johnston-Willis Sanatorium to Have New Home.**

The Johnston-Willis Sanatorium Corporation have acquired property on Kensington Avenue opposite Battle Abbey, this city, on which they plan to erect a new hospital calling for an outlay of more than a quarter of million dollars. It is expected to have the new building completed and ready for occupancy within the course of two years.

**Roanoke Academy of Medicine.**

Present officers of the Roanoke Academy of Medicine are Dr. W. Brownley Foster, president and Dr. R. L. Mason, secretary.

**The Southside Virginia Medical Association**

Postponed its meeting from the 10th to the 24th of June, owing to conflict in date with the meeting of the American Medical Association. Dr. R. L. Raiford, Sedley, is secretary.

**Dr. James W. Tipton**

Has moved to Dublin, Va., and taken over the work of Dr. E. L. Sutherland, who left June 1, for New York to take up post-graduate work, preparatory to specializing in eye, ear, nose and throat work.

**Dr. James W. Hannabass,**

Formerly of Glade Hill, Va., has located at 3418 East Broad Street, this city, for the practice of his profession.

**Dr. D. A. Stanton,**

High Point, N. C. has been elected mayor of that city.

**Epidemic Cost $100,000.**

The city of Sydney, Australia, spent $100,000 during the Spanish Influenza epidemic, recently, in dealing with distress due to unemployment because of the epidemic. Sixty-four depots were established throughout the district with officers at their heads, authorized to ex-

tend rent relief and to provide board and lodgings to those made homeless or penniless as a result of the disease.

**Tuberculosis in Army.**

The National Anti-Tuberculosis Association announces that there are still 6,000 men in the service being treated for tuberculosis, although 62,000 men afflicted with the disease were barred from admission into the National Army and 20,000 others, who reached camps, were discharged for the same reason.

**Dr. George W. Brown,**

Superintendent of the State Hospital, at Williamsburg, Va., enjoyed a trip to Georgia in May, having gone there to attend a medical convention.

**On Stuart Circle Hospital Staff.**

Dr. Alexander G. Brown, Jr., and Ben. H. Gray have recently been added to the staff of physicians and board of directors of Stuart Circle Hospital this city. Dr. Brown will be attached to the medical and Dr. Gray to the obstetrical department.

**Dr. and Mrs. Robert C. Bryan,**

Of this city, enjoyed a motor trip through the Virginia mountains and to White Sulphur Springs, W. Va., in May.

**Dr. T. N. Barnett,**

Of the medical staff of St. Luke's Hospital, this city, has returned from a visit to relatives near Culpeper, Va.

**Beliguim Queen Made M. D.**

Queen Elizabeth of Belgium has been nominated doctor of medicine by the University of Liege, in recognition of her work as a nurse throughout the war.

**Dr. Henry S. Myers,**

Former member of the House of Delegates from Amherst County, this State, has announced his candidacy for the State Senate from the Amherst-Nelson district.

**Dr. Charles U. Gravatt,**

Port Royal, Va., who has represented his district, which includes Caroline and Hanover Counties, for the last twelve years, has offered for re-election.

**Maj. R. Gordon Simmons,**

U. S. A., retired, was elected president of the Army, Navy and Marine Club, organized in Roanoke, Va., the middle of May.

**Dr. Samuel Tilden Elliott,**

Formerly of Charlotte County, but more recently of Danville, Va., had the misfortune to lose his office and effects in a fire which destroyed the Dudley Building in that city, May 23d.

**Dr. Hugh H. Hill,**

Locust Dale, Va., returned home last month after spending sometime in touring Florida and Cuba.

**Married—**

Dr. Elisha Barksdale and Miss Rose Drummond McWane, both of Lynchburg, Va., May 24th.

**High Rate of Venereal Disease among Drafted Men.**

According to *The Social Hygiene Bulletin*, the Southern cities showed a higher ratio of venereal disease among the drafted men than the Northern cities. Savannah, Ga., has the unenviable distinction of sending a larger proportion of drafted men with venereal diseases among the second million who went into the army than any other American city.

**Dr. Edward G. Seibert,**

Washington, D. C., has been elected treasurer of the Medical Society of the District of Columbia, to succeed Dr. Charles W. Franzoni, who has resigned after a service of forty-six years.

**The West Virginia State Medical Association,**

At is annual meeting in Clarksburg, last month, under the presidency of Dr. Robt. J. Reed, Wheeling, selected Parkersburg for the place of meeting in 1920, and elected the following officers; President, Dr. Henry R. Johnson, Fairmont; vice-presidents, Drs. Benj. F. Shuttleworth, Clarksburg, Walter E. Vest, Huntington, and Jos. L. Miller, Thomas; secretary, Dr. J. Howard Anderson, Marytown, and treasurer, Dr. Hugh G. Nicholson, Charleston, both of the latter being re-elected.

**Dr. Lawrence T. Royster,**

Norfolk, Va., was among those of the alumni of the University of Virginia who was initiated into the Phi Beta Kappa fraternity, at the finals of the University this month. Dr. Royster was a member of the class of '97.

**Dr. William R. Rogers**

Has been elected one of the municipal Commissioners of Bristol, Va., to serve under the new city manager plan of government which has just been adopted there.

**New Hospital For Henry County, Va.**

Mrs. Bettie Watt Hairston, widow of Major W. S. Hairston, has deeded her residence and five acres of land, two miles from Martinsville, Va., to the people of Henry County as a hospital. Dr. A. C. Lancaster, of Fayerdale, will superintend the conversion of the home into a hospital. It is to be named Watt Hairston Memorial Hospital in memory of her son, who died some years ago.

**New Superintendent at St. Luke's Hospital.**

Miss Martha V. Baylor, who has so efficiently served as superintendent of Sheltering Arms Hospital, this city, for several years, has been appointed superintendent of St. Luke's Hospital, Richmond, to succeed Miss Ruth Robertson, resigned.

**Dr. S. C. Draper,**

Pulaski, Va., left the latter part of May for a business trip to Logan and Huntington, W. Va.

**Dr. May Farinholt Jones,**

Of West Point, Va., has resigned the position she has held for several years as resident physician in the State Normal School at Hattiesburg, Miss., to accept the position as assistant superintendent of the Mississippi State Sanatorium at Magee, Miss.

**Dr. and Mrs. Lyle Hansbrough,**

Front Royal, Va., were recent visitors in Winchester, Va.

**Dr. Joel Crawford,**

Yale, Va., visited friends in Ashland, Va., last month.

**Rockingham Memorial Hospital to be Enlarged.**

It has been announced by officials of the Rockingham Memorial Hospital, at Harrisonburg, Va., that a drive for $40,000 would open on July 6th and continue for a week. The money secured will be used to build an additional wing to the hospital which is much cramped for space. The hospital was established in 1910 and has a capacity of 36 beds.

**America Leads as Consumer of Drugs.**

Report of the special narcotic committee, appointed by Secretary of the Treasury McAdoo to investigate the drug traffic in the United States, has been completed. It shows that the United States is the largest consumer of drugs in the world, with more than 1,000,000 addicts and more than $61,000,000 spent annually by drug users to satisfy the habit. This country is said to consume from ten to sixty times as much opium as is consumed by other countries. It is further estimated that over 237,000 persons are now receiving treatment in an effort to be cured of the drug habit. Although the greater portion of our citizens do not take a single dose of opium year after year, the annual consumption of opium in this country is estimated at thirty-three grains annually for every man, woman and child.

**Dr. Greer Baughman,**

Of this city, announces that he has returned from service in the American Expeditionary Forces in France, and will limit his practice to obstetrics.

**Surg. Gen. Ireland Awarded British Cross.**

In recognition of his services as chief surgeon of the American Expeditionary Forces and later as surgeon general of the American Army, the British government has conferred upon Surgeon General Ireland the Cross of the Companion of the Bath.

**Dr. Hunter B. Spencer,**

Formerly of Staunton, Va., after spending sometime in Philadelphia, has taken the office occupied by the late Dr. P. M. Strother, at 818 Church Street, Lynchburg, Va., and has opened an X-ray laboratory.

**Maj. Gen. William C. Gorgas,**

Former surgeon general, U. S. A., and at present head of the American Yellow Fever Commission, arrived in Panama, May 31, en route to the United States. The Commission has been investigating conditions in the northern part of South America under the auspices of the Rockefeller Foundation.

**Doctors in Business Men's Association.**

Drs. J. N. Clore, Madison, W. L. Early, Wolftown, and W. A. Smith, Haywood, were elected members of the executive committee, of the Business Men's Association, organized in Madison County, Virginia, last month.

**Dr. W. P. Caton,**

Formerly of Accotink, Va., but more recently connected with the State Board of Health, now has headquarters at Chatham, Va., in connection with his health work.

**Dr. Hunter H. McGuire**

Has been elected president of the Chamber of Commerce of Winchester, Va., for the ensuing year.

**Dr. John D. Foltz**

And family returned to their home in this city, the latter part of May, after a visit to relatives in Harrisonburg, Va.

**Dr. Charles S. Webb,**

Bowling Green, Va., made an address at Mt. Hermon Church, at Shumansville, June the 8th, on the occasion of the unveiling of a memorial window in honor of the late Charles A. Shuman.

**Berryville To Have Hospital.**

Efforts are being made to acquire the home of the late Marshall McCormick in Berryville, Va., for the establishment of a Clarke County Hospital at that place. The funds are to be raised mainly by private subscription.

**Dr. A. L. Herring,**

Recently returned from medical service with the army, has opened offices at 320 West Grace Street, this city.

**Dr. Mary Evelyn Brydon,**

Of the State Board of Health, visited Harrisonburg, Va., last month, and instructed the juniors of the Normal School there in methods of medical inspection in the schools.

**Dr. and Mrs. Frank N. Mallory,**

Lawrenceville, Va., were visitors in this city in May.

**Dr. T. H. Valentine,**

Vultare, N. C., was in Richmond, in May, having come to attend a Masonic meeting.

**Dr. Brodie C. Nalle,**

Charlotte, N. C., recently visited his parents in Culpeper, Va.

**Typhus Fever Situation in Roumania.**

The typhus fever epidemic which has claimed tens of thousands of lives in Roumania in the past two and a half years is believed to have about "burned itself out" in that country though there are sporadic outbreaks of the disease. Outbreaks of smallpox and isolated cases of cholera are, however, giving doctors and nurses little time for rest. In one hospital, American doctors found nine children dead of smallpox. The nurses, working day and night to attend the living cases, had not had time in which to remove the dead children.

The devastation of the country is such that, but for the help being given by the American Red Cross, Roumania would to-day be a nation of starving people.

**Influenza in Alaska.**

According to authentic cables received in this country early in June, one hundred and sixty natives at Bristol Bay and Unalaska, in Southwestern Alaska, had succumbed to influenza during the ten day previous to the report.

**Belgium Lost 100,000 Children.**

At the International Child Welfare Conference in Chicago, in May, one of Belgium's leading medical authorities declared that the war cost Belgium 1,000 children. There were about five hundred delegates in attendance upon the Conference, including representatives of European countries and Japan.

**Promotions and New Instructions In U. Va. Faculty.**

At the regular June meeting of the Board of Visitors of the University of Virginia, the following promotions and appointments were made in the School of Medicine: Adjunct professor Dr. John H. Neff was made associate professor of genito-urinary surgery; Dr Lucius G. Gage, an almnus of the school and a member of Base Hospital No. 41 recentl returned from overseas was elected adjunct professor of pathology; Patton Kimbrough Pierce, Ralph, Ala., was appointed assistant in histology and embryology, and Raymond A. Vonderlehr, Richmond, Va., was appointed assistant in materia medica and pharmacology.

**Army Hospitals Closing.**

Army general hospitals No. 18 at Waynesville, N. C., and No. 35 at West Baden, Ind., have been officially closed. The hospital at Sewell's Point, Va., is shortly to be transferred to the U. S. Public Health Service.

**Amputates Soldier's Leg With Razor.**

With a razor, a spool of cotton thread and a small quantity of ether and chloroform, Miss Marie P. Kouroyen, an Aemerican Red Cross nurse, performed a life or death operation as the result of which she has come to be known as "the American angel" by the homeless and starving Greek refugees.

Born of Greek parents, Miss Kouroyen is a graduate nurse of the Massachusetts General Hospital, in Boston. Because of her knowledge of Greek, the American Red Cross sent her to Macedonia, where typhus, smallpox and cholera tread on each other's heels and where the refugees bury their dead beneath the dirt floors of their shell-shattered shacks so that the bread cards of the dead member of their family shall not be taken up.

A Greek soldier, one of whose legs had been crushed, was brought to the box car on a railroad siding in which Miss Kouroyen was living. Something had to be done for him at once. Borrowing a razor from an American Red Cross field worker, who was shaving by candle light in the box car, Miss Kouroyen anaesthetized her patient with her small supply of ether and chloroform and performed an amputation, using cotton thread to "tie off" the arteries and veins.

Despite the prophecy of a local doctor that the aged patient would not live through the night, Miss Kouroyen some time later received a visit from her patient. He had an American artificial limb made for him in the American Red Cross artificial leg factory for Greek war mutiles in Athens.

**Another Army Hospital to Close.**

It is officially announced that Kenilworth Inn, Asheville, N. C., now being used as a government hospital, will be reopened to the general public as a hotel on February 1, 1920. The government's contract with the owners of the hotel expires September 1, and the hospital will close at that time.

## Obituary Record.

**Dr. Henry Davidson Fry,**

After a long illness, died at his home in Washington, D. C., May 12, aged 66 years. He was one of the most prominent obstetricians in Washington. Dr. Fry studied medicine at the University of Maryland, from which he graduated in 1876. He was for a number of years professor of obstetrics and clinical professor of gynecology at Georgetown University, and was made professor emeritus upon his retirement in 1917.

**Dr. James M. Smith,**

One of Henry County's oldest citizens, died at his home in Martinsville, Va., May 19, aged 89 years. Death was due to old age after an illness of several weeks. He was engaged in active service in the war between the States. Dr. Smith is survived by his wife and several children.

**Dr. Thomas Rowe Evans,**

Acme, W. Va., was born in this city 65 years ago, died June 1. He studied medicine at the Medical College of Virginia from which he graduated in 1877. Dr. Evans was unmarried. He had practiced for some years in West Virginia.

**Chris Baker,**

Who will be remembered by many ex-students of the Medical College of Virginia, as former custodian of the dissecting room of the College, died June 8 as the result of paralysis. Though his exact age was never known, he must have been between eighty and ninety years of age, and had been connected with the College for nearly seventy years.